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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SELLERS, ROBERT E	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/787,113	FUJIEDA ET AL.	
	Examiner	Art Unit	
	Robert Sellers	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *9,11 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10 and 13-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/27/04 & 5/9/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The following elections without traverse set forth in the response filed September 28, 2006 are acknowldeged:

(a) bisphenol F epoxy resin

(b1) 4,4'-dihydroxydiphenylsulfone

(b2) zirconium tetraacetylacetonate

(d) silica

(e) The epoxy resin composition covering the non-aqueous solvent battery of claim 10.

Claims 9, 11 and 12 are withdrawn as being directed to non-elected species of the disposition of the epoxy resin composition, leaving claims 1-8, 10 and 13-19 active.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 7 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. The metes and bounds of the term "type" used to characterize the zirconium compound are unclear since the scope of the term is not defined.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8, 10 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton Patent No. 6,049,975; Goldner et al. Patent No. 6,982,132 and Japanese Patent No. 2001-2757 (Japanese '757) in view of Murai et al. Patent No. 6,437,090 and Japanese Patent Nos. 58-187425 (Japanese '425) and 62-74919 (Japanese '919).

2. Clayton in Figure 3 (explained in column 9, lines 41-48) depicts a lithium battery 48A substituted for a metal cover plate electrically connected to semiconductor devices 54 and isolated therefrom by an adhesive film 52 (col. 5, line 9) on a molded frame substrate 12 (col. 5, line 13). Although Figure 3 does not illustrate the covering of the lithium battery of claim 10, Figure 17 (explained in column 17, line 54 to col. 18, line 9) exhibits a subassembly 32 composed of a composite substrate 46, semiconductor devices 54 and a cover plate 48 completely encapsulated (col. 18, lines 6-8) with a protective overcoat 70 comprising an epoxy resin (col. 17, lines 62-63). It would have been obvious to one of ordinary skill in the art to completely encapsulate the lithium battery 48A in Figure 3 with the protective overcoat 70 in order to prevent the exposure of the battery to deleterious environmental factors.

3. Goldner et al. in Figure 1 (explained in column 8, lines 8-19) shows a lithium electrochemical cell 100 (col. 5, line 58) attached to a substrate 110 and containing an intermediate contact layer 120 for external electrical contact as a power source for electronic devices (col. 4, lines 33-38). The lithium electrochemical cell is encapsulated with an organic packaging material such as an epoxy resin (col. 13, lines 47-56).

4. Japanese '757 (CAPLUS abstract and translation, page 6, paragraph 41) reports a lithium ion battery connected to electronic circuitry protected with an epoxy resin composition.

The claimed latent catalyst of a phenol compound and organic metal compound (b), butyral resin (c) and inorganic filler (d) are not recited. Murai et al. shows a formulation useful as a semiconductor sealant or adhesive (col. 57, lines 46-54) containing an epoxy resin, the elected species of 4,4'-dihydroxydiphenylsulfone and an aluminum tris(alkylacetylacetonate) (col. 58, lines 64-65, bisphenol A epoxy resin EP1; col. 60, components B4 and C1, cols. 61-62, Tables 3 and 4, Example I-24; col. 67, components OH1 and Al1, Al2 or Al3; cols. 69-70, Tables 7 and 9, Examples II-1, II-2 and II-3). A butyral resin is included to improve the crack resistance (col. 56, lines 58, 59 and 63. An inorganic filler such as silica can be incorporated to impart "suitable viscosity, fluidity and filling property (col. 55, lines 61-66). The organometal compounds of Formulae (3), (4) and (5) presented on pages 10-11 of the instant specification are shown in column 23, line 43 to col. 24, line 21 wherein M can be zirconium.

5. Japanese '425 reports a curing catalyst for an epoxy resin prepared from a phenolic compound and a β-keto ester aluminum complex possessing improved storage stability.

6. Japanese '919 recognizes the control of curing times for epoxy resin composition via the use of phenol compounds such as the bisphenol S (i.e. 4,4'-dihydroxydiphenylsulfone) and the elected species of zirconium tetraacetylacetonate (CAPLUS abstract, registry nos. 80-09-1 and 17501-44-9, respectively).

7. It would have been obvious to employ the composition of Murai et al. obtained from an epoxy resin, 4,4'-dihydroxydiphenylsulfone, an organometallic compound, a butyral resin and an inorganic filler as the adhesive film and encapsulant of Clayton, the encapsulant of Goldner et al. and the protective covering of Japanese '757 in order to enhance the gelation time, storage stability, bending strength and volume resistance (Murai et al., col. 62, Table 4, Example I-24 and cols. 69-70; and Table 9, Examples II-1, II-2 and II-3) as well as improving the storage stability (Japanese '425) and controlling the curing time (Japanese '919).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). rs 11/9/2006

ROBERT SELLERS
PRIMARY EXAMINER